

What is claimed is:

1. A data transmission method for transmitting at least image data accommodated in an image frame of a preset size, comprising the steps of:

5 capturing an image including a target image to be transmitted;

making adjustments so that the target image to be transmitted from the captured image substantially fully fills the image frame; and

10 compressing and transmitting the adjusted image data in the image frame.

2. A data transmission method as set forth in claim 1, wherein when making adjustments so that a target image fully fills an image frame, comprising using an  
15 image of a characteristic portion of the image to be transmitted for matching and cutting out the image around the part with the best match for tracking of the image.

3. A data transmission method as set forth in claim 1, wherein when making adjustments so that a target  
20 image fully fills an image frame, comprising using an image of a characteristic portion of the image to be transmitted to calculate a distance in the characteristic portion and using this for enlargement, reduction, and tracking of the image.

25 4. A data transmission method as set forth in

claim 2, wherein when detecting a characteristic portion  
of an image, comprising locking an image in a desired  
image state while monitoring a state of input of the  
image to be transmitted and using a center portion of the  
5 locked image as the characteristic portion of the image.

5. A data transmission method as set forth in  
claim 3, wherein when detecting a characteristic portion  
of an image, comprising locking an image in a desired  
image state while monitoring a state of input of the  
10 image to be transmitted and using a center portion of the  
locked image as the characteristic portion of the image.

6. A data transmission method as set forth in  
claim 2, wherein when detecting a characteristic portion  
of an image, comprising displaying a state of input of  
15 the image to be transmitted, specifying a certain  
location on the display screen, and using the portion  
around the specified point as the characteristic portion  
of the image.

7. A data transmission method as set forth in  
20 claim 3, wherein when detecting a characteristic portion  
of an image, comprising displaying a state of input of  
the image to be transmitted, specifying a certain  
location on the display screen, and using the portion  
around the specified point as the characteristic portion  
25 of the image.

8. A data transmission method as set forth in claim 4, wherein when locking a target image by using a characteristic portion of an image, comprising fetching and tracking the image at a frame rate the same as or  
5 higher than the image to be transmitted and refreshing a reference image serving as a reference for tracking at a rate the same as or higher than the transmission frame rate.

9. A data transmission method as set forth in  
10 claim 5, wherein when locking a target image by using a characteristic portion of an image, comprising fetching and tracking the image at a frame rate the same as or higher than the image to be transmitted and refreshing a reference image serving as a reference for tracking at a  
15 rate the same as or higher than the transmission frame rate.

10. A data transmission method as set forth in claim 1, comprising displaying a state of input of the image to be transmitted and specifying a range to be  
20 transmitted on the display to determine the range of transmission of the image.

11. A data transmission method for transmitting at least image data, comprising the steps of:

capturing an image including a target image to  
25 be transmitted;

making adjustments so that the target image to  
be transmitted from the captured image has a preset size;  
and

compressing and transmitting the adjusted image  
5 data in the image frame.

12. A data transmission method as set forth in  
claim 11, wherein when making adjustments so that a  
target image has a preset size, comprising using an image  
of a characteristic portion of the image to be  
10 transmitted for matching and cutting out the image around  
the part of the best match for tracking of the image.

13. A data transmission method as set forth in  
claim 11, wherein when making adjustments so that a  
target image has a preset size, comprising using an image  
15 of a characteristic portion of the image to be  
transmitted to calculate a distance in the characteristic  
portion and using this for enlargement, reduction, and  
tracking of the image.

14. A data transmission method as set forth in  
20 claim 12, wherein when detecting a characteristic portion  
of an image, comprising locking an image in a desired  
image state while monitoring a state of input of the  
image to be transmitted and using a center portion of the  
locked image as the characteristic portion of the image.

25 15. A data transmission method as set forth in

claim 13, wherein when detecting a characteristic portion  
of an image, comprising locking an image in a desired  
image state while monitoring a state of input of the  
image to be transmitted and using a center portion of the  
5 locked image as the characteristic portion of the image.

16. A data transmission method as set forth in  
claim 12, wherein when detecting a characteristic portion  
of an image, comprising displaying a state of input of  
the image to be transmitted, specifying a certain  
10 location on the display screen, and using the portion  
around the specified point as the characteristic portion  
of the image.

17. A data transmission method as set forth in  
claim 13, wherein when detecting a characteristic portion  
15 of an image, comprising displaying a state of input of  
the image to be transmitted, specifying a certain  
location on the display screen, and using the portion  
around the specified point as the characteristic portion  
of the image.

20 18. A data transmission method as set forth in  
claim 14, wherein when locking a target image by using a  
characteristic portion of an image, comprising fetching  
and tracking the image at a frame rate the same as or  
higher than the image to be transmitted and refreshing a  
25 reference image serving as a reference for tracking at a

rate the same as or higher than the transmission frame rate.

19. A data transmission method as set forth in claim 15, wherein when locking a target image by using a characteristic portion of an image, comprising fetching and tracking the image at a frame rate the same as or higher than the image to be transmitted and refreshing a reference image serving as a reference for tracking at a rate the same as or higher than the transmission frame rate.

20. A data transmission method as set forth in claim 11, comprising displaying a state of input of a transmitted image and specifying a range to be transmitted on the display to determine the range of transmission of the image.

21. A data transmission method for displaying at least image data of a user on a display screen among a plurality of terminals and transmitting at least image data while displaying received image data on the display screen, comprising capturing an image including a target image of a user to be transmitted from substantially the center of the display screen.

22. A data transmission method for displaying at least image data of user on a display screen among a plurality of terminals and transmitting at least image

data while displaying received image data of another party on the display screen and displaying content for common discussion on the display screen, comprising the steps of:

5 capturing an image including a target image of a user to be transmitted from substantially a center of the display screen and

displaying the image data at one of an upper portion or a lower portion of the display screen from the  
10 substantially center portion of the display screen serving as the capturing portion and displaying the content at the other portion.

23. A data transmission method as set forth in claim 22, comprising displaying image data above the  
15 content on the display screen.

24. A data transmission method as set forth in claim 22, comprising displaying image data below the content on the display screen.

25. A data transmission apparatus for transmitting  
20 at least image data accommodated in an image frame of a preset size, comprising

an imaging means for capturing an image including a target image to be transmitted;

a first circuit for making adjustments so that  
25 the target image to be transmitted from the captured

image by the imaging means substantially fully fills the image frame; and

a second circuit for compressing and transmitting the adjusted image data in the image frame.

5        26. A data transmission apparatus as set forth in claim 25, wherein when making adjustments so that the target image to be transmitted fully fills the image frame, said first circuit uses an image of a characteristic portion of the image to be transmitted for  
10 matching and cuts out the image around the part with the best match for tracking of the image.

27. A data transmission apparatus as set forth in claim 25, wherein when making adjustments so that the target image to be transmitted fully fills the image  
15 frame, said first circuit uses an image of a characteristic portion of the image to be transmitted to calculate a distance in the characteristic portion and uses this for enlargement, reduction, and tracking of the image.

20        28. A data transmission apparatus as set forth in claim 26, comprising

a displaying means for displaying image data and

a locking means able to lock an image displayed  
25 by the displaying means in a desired image state, wherein



when detecting a characteristic portion of an image, said first circuit uses the center portion of the image locked by the locking image as the characteristic portion of the image.

5           29. A data transmission apparatus as set forth in claim 27, comprising

a displaying means for displaying image data  
and

10           a locking means able to lock an image displayed by the displaying means in a desired state, wherein

when detecting a characteristic portion of an image, said first circuit uses the center portion of the image locked by the locking image as the characteristic portion of the image.

15           30. A data transmission apparatus as set forth in claim 26, comprising

a displaying means for displaying image data  
and including a pointer able to specify a certain  
location and

20           a specifying means able to specify a certain location of the image displayed on the displaying means by the pointer, wherein

when detecting a characteristic portion of an image, said first circuit uses a portion around the point  
25           specified by the specifying means as the characteristic

portion of the image.

31. A data transmission apparatus as set forth in claim 27, comprising

a displaying means for displaying image data  
5 and including a pointer able to specify a certain location and

a specifying means able to specify a certain location of the image displayed on the displaying means by the pointer, wherein

10 when detecting a characteristic portion of an image, said first circuit uses a portion around the point specified by the specifying means as the characteristic portion of the image.

32. A data transmission apparatus as set forth in  
15 claim 28, wherein when locking a target image by using a characteristic portion of the image, said first circuit fetches the image and performs a tracking operation at a frame rate the same as or higher than the image to be transmitted and refreshes a reference image serving as a  
20 reference for tracking at a rate the same as or higher than the transmission frame rate.

33. A data transmission apparatus as set forth in claim 29, wherein when locking a target image by using a characteristic portion of the image, said first circuit  
25 fetches the image and performs a tracking operation at a

frame rate the same as or higher than the image to be transmitted and refreshes a reference image serving as a reference for tracking at a rate the same as or higher than the transmission frame rate.

5           34. A data transmission apparatus as set forth in claim 25, comprising

              a displaying means for displaying image data and including a pointer able to specify a certain location and

10           a specifying means able to specify a certain location of the image displayed by the displaying means by the pointer, wherein

              said first circuit decides on the range specified by the specifying means as the range for  
15           transmission of the image.

              35. A data transmission apparatus for transmitting at least image data, comprising

              an imaging means for capturing an image including a target image to be transmitted;

20           a first circuit for making adjustments so that the target image to be transmitted from the captured image has a preset size; and

              a second circuit for compressing and transmitting the adjusted image data in the image frame.

25           36. A data transmission apparatus as set forth in

claim 35, wherein when making adjustments so that the target image has a preset size, said first circuit uses an image of a characteristic portion of the image to be transmitted for matching and cuts out the image around  
5 the part with the best match for tracking of the image.

37. A data transmission apparatus as set forth in claim 35, wherein when making adjustments so that the target image has a preset size, said first circuit uses an image of a characteristic portion of the image to be  
10 transmitted to calculate a distance in the characteristic portion and uses this for enlargement, reduction, and tracking of the image.

38. A data transmission apparatus as set forth in claim 36, comprising  
15 a displaying means for displaying image data and  
a locking means able to lock an image displayed by the displaying means in a desired state, wherein  
when detecting a characteristic portion of an  
20 image, said first circuit uses a center portion of the image locked by the locking image as the characteristic portion of the image.

39. A data transmission apparatus as set forth in claim 37, comprising  
25 a displaying means for displaying image data

and

a locking means able to lock an image displayed  
by the displaying means in a desired state, wherein

when detecting a characteristic portion of an  
5 image, said first circuit uses a center portion of the  
image locked by the locking image as the characteristic  
portion of the image.

40. A data transmission apparatus as set forth in  
claim 36, comprising

10 a displaying means for displaying image data  
and including a pointer able to specify a certain  
location and

a specifying means able to specify a certain  
location of the image displayed on the displaying means  
15 by the pointer, wherein

when detecting a characteristic portion of an  
image, said first circuit uses a portion around the point  
specified by the specifying means as the characteristic  
portion of the image.

20 41. A data transmission apparatus as set forth in  
claim 37, comprising

a displaying means for displaying image data  
and including a pointer able to specify a certain  
location and

25 a specifying means able to specify a certain

location of the image displayed on the displaying means  
by the pointer, wherein

when detecting a characteristic portion of an  
image, said first circuit uses a portion around the point  
5 specified by the specifying means as the characteristic  
portion of the image.

42. A data transmission apparatus as set forth in  
claim 38, wherein when locking a target image by using a  
characteristic portion of the image, said first circuit  
10 fetches the image and performs a tracking operation at a  
frame rate the same as or higher than the image to be  
transmitted and refreshes a reference image serving as a  
reference for tracking at a rate the same as or higher  
than the transmission frame rate.

15 43. A data transmission apparatus as set forth in  
claim 39, wherein when locking a target image by using a  
characteristic portion of the image, said first circuit  
fetches the image and performs a tracking operation at a  
frame rate the same as or higher than the image to be  
20 transmitted and refreshes a reference image serving as a  
reference for tracking at a rate the same as or higher  
than the transmission frame rate.

44. A data transmission apparatus as set forth in  
claim 35, comprising  
25 a displaying means for displaying image data

and including a pointer able to specify a certain location and

a specifying means able to specify a certain location of the image displayed by the displaying means  
5 by the pointer, wherein

said first circuit decides on the range specified by the specifying means as the range for transmission of the image.

45. A data transmission system for displaying at  
10 least image data of a user on a display screen among a plurality of terminals and transmitting at least image data while displaying received image data of another party on the display screen, wherein a terminal comprises

an imaging means for capturing an image  
15 including a target image to be transmitted;

a first circuit for making adjustments so that the target image to be transmitted from the captured image by the imaging means substantially fully fills an image frame; and

20 a second circuit for compressing and transmitting the adjusted image data in the image frame.

46. A data transmission system for displaying at least image data of a user on a display screen among a plurality of terminals and transmitting at least image  
25 data while displaying received image data of another

party on the display screen, wherein a terminal comprises

an imaging means for capturing an image  
including a target image to be transmitted;

a first circuit for making adjustments so that  
5 the target image to be transmitted from the captured  
image becomes a preset size; and

a second circuit for compressing and  
transmitting the adjusted image data in an image frame.

47. A data transmission system for displaying at  
10 least image data of a user on a display screen among a  
plurality of terminals and for transmitting at least  
image data while displaying received image data on the  
display screen, wherein

an imaging means for capturing an image  
15 including a target image to be transmitted is provided  
substantially at the center of the display screen.

48. A data transmission system for displaying at  
least image data of a user on a display screen among a  
plurality of terminals and for transmitting at least  
20 image data while displaying received image data of  
another party on the display screen and displaying  
content for common discussion on the display screen  
comprising

an imaging means provided substantially at the  
25 center of the display screen and capturing an image



a displaying means for displaying the image data at one of an upper portion or a lower portion of the display screen from the substantially center portion of the display screen serving as the capturing portion and displaying the content at the other portion.